

Conserving biodiversity and combating climate change can help maintain cultural creativity

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“This joy must be fully enjoyed. Two titles of nobility given by Humans are not easy for anyone living on this Earth to obtain.”

—In “Titles of Nobility”; *The Kingfisher Story Collection* (2022a)

For a long time, anthropologists, geographers, and other social science and humanities scholars have argued that the way humans form values and cultural behaviors is greatly influenced by the ecosystems in which they live (Collard & Foley, 2002; Orlove, 1980). This arises from humans employing cultural values and behaviors as means to alter and adapt to their surrounding environments. For instance, many studies have shown that climatic and/or ecological factors can affect non-material cultural values such as political ideologies, ethical systems, religious beliefs, and faith in ancient trees (Botero *et al.*, 2014; Conway III, Chan, & Woodard, 2020; Nakadai, 2023; Talhelm *et al.*, 2014).

Recently, Shota Shibasaki, Ryosuke Nakadai, and Yo Nakawake have taken a step further by showing that folklore motifs are constrained by local ecological features (Shibasaki, Nakadai, & Nakawake, 2024). Specifically, their study demonstrated that the presence of actual animals is almost a prerequisite for the appearance of trickster animals in folklore. In folk tales, these animals often play roles that break the rules, challenge the existing order, and thus bring about change or innovation. Additionally, the presence of animals in nearby vicinity also influences the appearance of these animals in folklore. The distribution of actual animals and the animals inspired by them in folklore almost entirely overlap each other. Naturally, this very distribution is influenced by the same climatic conditions (Shibasaki *et al.*, 2024).

From the research of Shibasaki *et al.* (2024), we can see that cultural product forms are significantly sharpened by the ecological and biological characteristics of the place where the product is created. From an information-processing perspective, nature is one of the important sources of information for humans' processes of absorbing, processing, and comparing to thereby create new forms of information (Nguyen, Le, & Vuong, 2023; Vuong, 2023). Even if it involves imaginative and non-physical details, it is still based on inferences about reality and the physical world around us (McCoy & Ullman, 2019).

The SM3D Knowledge Management Framework suggests that the creativity of an individual or a group depends on the serendipity mechanism and the 3D principle (Nguyen, Jin *et al.*, 2023; Vuong *et al.*, 2022). While serendipity is the ability to notice, evaluate, and take advantage of unexpected information to create innovation for survival purposes (in both social and natural environments), 3D is used to refer to three types of disciplines (or principles): 1) using the best knowledge and expertise within the discipline, 2) connecting with the best knowledge and expertise out of the discipline, and 3) implementing the above two with a disciplined process until the creative product is accomplished (Napier & Nilsson, 2008; Vuong, 2022b). To achieve the 3D principle and effectively utilize serendipity, observations from the surrounding environment or through access to collective knowledge storage systems (such as books, newspapers, films, photos, oral transmission, etc.) are very important. In other words, the individuals' or groups' ability to create cultural products depends on the availability and accessibility of information (Vuong, 2022b).

Then, what happens when ecosystems are changing and biodiversity is rapidly declining? According to the Living Planet Index, species populations have decreased by an average of about 69% from 1970 to 2018, and about 1 million species of flora and fauna are threatened with extinction (World Wide Fund for Nature, 2022). Climate change caused by

humans has and is exacerbating biodiversity loss (Habibullah, Din, Tan, & Zahid, 2022). Numerous mass mortality events of organisms around the world have been recorded. These are just the numbers we have recorded, and many plant and animal species may have gone extinct due to human impact before we could document them.

The appearance of cultural products, like *The Kingfisher Story Collection*, can be used as a specific example to answer the question above (Vuong, 2022a). The book is a collection of short fictional stories using the world of birds, with the kingfisher, sometimes wise, sometimes cunning, as the protagonist. According to Nancy K. Napier (Distinguished Professor Emerita at Boise State University), the book provides readers with “a charming peek into Vietnamese culture”. Although this is a product that helps depict the socio-cultural values and phenomena in Vietnam, the creative process would almost be impossible without observations and rich documentation of bird species (especially the kingfisher).

Therefore, we believe that the decline in biodiversity will likely reduce the ability to create cultural products, as the disappearance of plant and animal species means that the reference information source for the creative process will also be diminished.

One of the major obstacles currently facing biodiversity conservation and climate change mitigation is some segments of the public’s apathy towards the environment. Therefore, the conservation of biodiversity and mitigating climate change need to be promoted as core values of a progressive and humane culture (Harrison & Huntington, 2000; Nguyen & Jones, 2022; Vuong, 2021). Only when cultural products focus on connecting people with nature, raising awareness of the value of nature, and the responsibility of humans to nature can we continue to preserve and enhance the creative cultural capacity of society (Vuong & Nguyen, 2023, 2024).

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